

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claims 1-27 (Canceled).

28. (Currently amended) A method ~~for placing virtual objects in virtual object locations in a video program at a head end in a television program delivery system~~, comprising:

receiving at ~~the a~~ head end of television program delivery system a plurality of virtual objects targeted to a plurality of different groups of viewers, wherein said head end is configured to communicate with a coupled to a plurality of set-top terminal[[s]];

— ~~storing the plurality of virtual objects in a database;~~

identifying at the head end ~~at least one a~~ plurality of virtual object locations ~~for within~~ each of a plurality of frames of the a video program;

creating a plan which includes rules for selecting, for each of the virtual object locations, one of the plurality of virtual objects to display in that virtual object location, the rules based on measures of compatibility between image content surrounding that virtual object location and each of the different groups of viewers; ~~selecting at the head end one or more of the plurality of virtual objects to be transmitted to a targeted terminal of said plurality of set-top terminals according to a set of placement rules and targeting information, wherein the targeted terminal is targeted by demographic information;~~

— ~~inserting at the head end the one or more of the plurality of virtual objects into the identified at least one virtual object location during a display or storage of the video program;~~
and

transmitting said video program, one or more of the plurality of virtual objects, and said plan to said ~~targeted~~ terminal.

29. (Currently amended) The method of claim 28, further comprising:
_____ generating a group assignment matrix ~~and a retrieval plan for a plurality of viewer terminals including the targeted terminal~~, wherein the group assignment matrix ~~comprises associates the terminal with one of the different groups of viewers reception site groupings and program categories thereby the targeted terminal stores information relating to the program categories of its group; and~~
_____ transmitting said group assignment matrix to said terminal.

30-31. (Canceled)

32. (Currently amended) The method of claim ~~31~~28, further comprising adjusting the ~~selecting step~~rules based on ~~the~~ recorded virtual objects watched data received from the terminal.

33-36. (Canceled)

37. (Currently amended) An operations center located at a head end, in a television program delivery system ~~that receives a plurality of virtual objects and video programs having virtual object locations and places the virtual objects into the video programs~~, comprising:

a database for storing ~~the received~~ a plurality of virtual objects targeted to a plurality of different groups of viewers; and

one or more processors configured for:

a virtual object location definer for identifying at least one a plurality of virtual object locations within each of a plurality of frames of a video program;

creating a plan which includes rules for selecting, for each of the virtual object locations, one of the plurality of virtual objects to display in that virtual object location, the rules based on measures of compatibility between image content surrounding that virtual object location and each of the different groups of viewers; and

transmitting said video program, one or more of the plurality of virtual objects, and said plan to a terminal through said television program delivery system. a virtual object selector for selecting at least one of the plurality of virtual objects to be transmitted to a targeted viewer terminal of a plurality of viewer terminals coupled to said head end according to a set of placement rules, wherein the targeted viewer terminal is targeted by demographic information; and

a targeted virtual object management system for selecting at least one of the plurality of virtual objects according to targeting information and inserting the selected at least one of the plurality of virtual objects into the at least one virtual object location during a display of the video programs at said viewer terminal.

38. (Currently amended) The operations center of claim 37, wherein said one or more processors are further configured for:

~~generating targeted virtual object management system generates~~ a group assignment matrix ~~and a retrieval plan for a plurality of viewer terminals~~, wherein the group assignment matrix ~~associates the terminal with one of the different groups of viewers~~ comprises reception site groupings and program categories thereby the viewer terminal stores information relating to the program categories of its group; and
transmitting said group assignment matrix to said terminal.

39-43. (Canceled)

44. (Currently amended) The operations center of claim ~~43~~³⁷, wherein said one or more processors are further configured for adjusting the rules ~~the virtual object placement plan is adjusted based on the stored virtual objects viewed data~~ received from the terminal.

45-47. (Canceled)

48. (New) A method comprising:

receiving a video program at a terminal over a television broadcast system, the video program including a plurality of virtual object locations within a sequence of video frames;

receiving a plurality of virtual objects at the terminal, each virtual object displayable in each of the virtual object locations, the virtual objects targeted to a plurality of different groups of viewers;

selecting at the terminal, for each virtual object location, a virtual object of the plurality of virtual objects to display in that virtual object location based on measures of compatibility

between image content surrounding that virtual object location and each of the different groups of viewers;

outputting the video program from the terminal with each virtual object location displaying the virtual object selected to be displayed for that virtual object location.

49. (New) The method of claim 48 wherein the selecting is further based on a ranking of pairs of each virtual object with each of the different groups of viewers.

50. (New) The method of claim 48 further comprising associating the terminal with one of the different groups of viewers, wherein the selecting is further based on the associating.

51. (New) The method of claim 48, wherein one of the virtual object locations moves spatially from one frame to a next frame in the sequence of frames.

52. (New) The method of claim 48, wherein two of the plurality of virtual object locations are in different spatial locations within a frame of the sequence of frames.

53. (New) The method of claim 48, further comprising:
storing viewer specific data, wherein the selecting is further based on the viewer specific data.

54. (New) The method of claim 48, wherein the outputting the video program is a first presentation of the video program, the method further comprising:

outputting the video program from the terminal as a second presentation of the video program with one of the virtual object locations displaying a different virtual object than displayed during the first presentation.

55. (New) The method of claim 54, further comprising:

selecting the different virtual object for display in the one virtual object location based on receiving updated virtual objects.

56. (New) The method of claim 54, further comprising:

selecting the different virtual object for display in the one virtual objection location based on user specific data stored in the terminal.

57. (New) The method of claim 48, further comprising:

receiving a plan including rules for the selecting at the terminal, for each virtual object location, the virtual object of the plurality of virtual objects to display in that virtual object location based on measures of compatibility between image content surrounding that virtual object location and each of the different groups of viewers.

58. (New) The method of claim 57, further comprising:

adjusting the plan based on viewer specific data stored in the terminal.

59. (New) A terminal comprising:

one or more receivers configured to receive a video program at the terminal over a television broadcast system, the video program including a plurality of virtual object locations within a sequence of video frames, and configured to receive a plurality of virtual objects at the terminal, each virtual object displayable in each of the virtual object locations, the virtual objects targeted to a plurality of different groups of viewers; and

one or more processors configured to select, for each virtual object location, a virtual object of the plurality of virtual objects to display in that virtual object location based on measures of compatibility between image content surrounding that virtual object location and each of the different groups of viewers, and configured to output the video program with each virtual object location displaying the virtual object selected to be displayed for that virtual object location.

60. (New) The terminal of claim 59 wherein the selecting is further based on a ranking of pairs of each virtual object with each of the different groups of viewers.

61. (New) The terminal of claim 59 wherein:

the one or more processors are configured to associate the terminal with one of the different groups of viewers, and

the selecting is further based on the associating of the terminal with the one of the different groups of viewers.

62. (New)The terminal of claim 59, wherein one of the virtual object locations moves spatially from one frame to a next frame in the sequence of frames.

63. (New) The terminal of claim 59, wherein two of the plurality of virtual object locations are in different spatial locations within a frame of the sequence of frames.

64. (New) The terminal of claim 59, further comprising:

a memory configured to store viewer specific data, wherein the selecting is further based on the viewer specific data.

65. (New) The terminal of claim 59, wherein:

the one or more processors are configured to output the video program in a first presentation and a second presentation of the video program, the second presentation having one of the virtual object locations displaying a different virtual object than displayed during the first presentation.

66. (New) The terminal of claim 65, wherein:

the one or more processors are configured to select the different virtual object for display in the one virtual object location based on receiving updated virtual objects.

67. (New) The terminal of claim 65, wherein:

the one or more processors are configured for selecting the different virtual object for display in the one virtual objection location based on user specific data stored in the terminal.

68. (New) The terminal of claim 59, wherein:

the one or more receivers are configured to receive a plan including rules for the selecting by the one or more processors, for each virtual object location, the virtual object of the plurality of virtual objects to display in that virtual object location based on measures of compatibility between image content surrounding that virtual object location and each of the different groups of viewers.

69. (New) The terminal of claim 68, further comprising:

a memory configured to store viewer specific data, wherein the one or more processors are configured for adjusting the plan based on the viewer specific data.

70. (New) A method for placing virtual objects in virtual object locations in a video program, comprising:

receiving at a head end of television program delivery system a plurality of virtual objects targeted to a plurality of different groups of viewers, wherein said head end is coupled to a terminal;

identifying at the head end a plurality of virtual object locations within each of a plurality of frames of the video program;

creating a plan which, for each of the virtual object locations within each of the plurality of frames, indicates rules for selecting one of the plurality of virtual objects to display in that virtual object location, the rules based on measures of compatibility between image content surrounding that virtual object location and each of the different groups of viewers;

transmitting said video program, one or more of the plurality of virtual objects, and said plan to said terminal;

selecting at the terminal, for each virtual object location, a virtual object of the plurality of virtual objects to display in that virtual object location based on the plan; and

outputting the video program from the terminal with each virtual object location displaying the virtual object selected to be displayed for that virtual object location.